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April 12 - April 19, 1990

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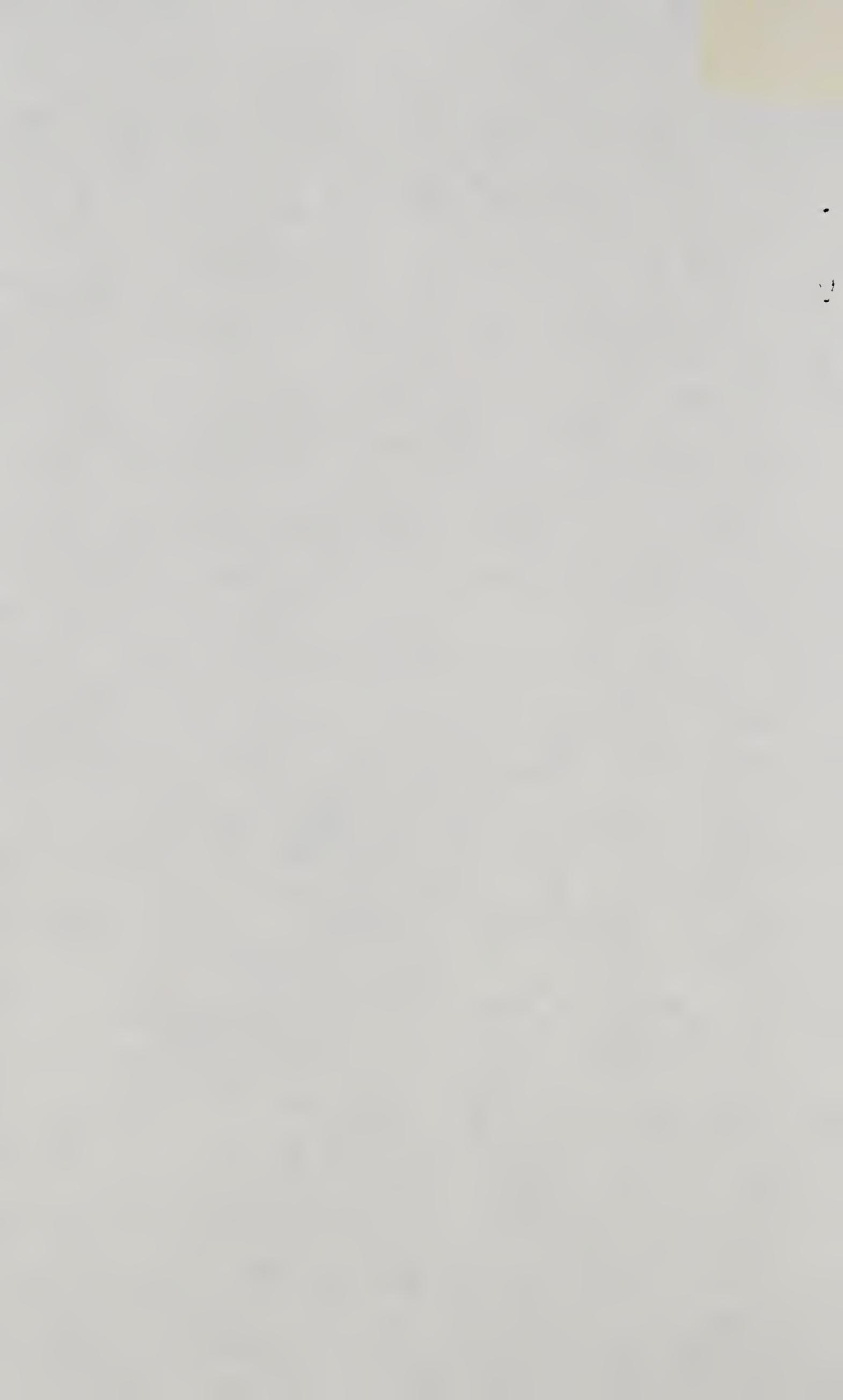
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U.S. Department of Agriculture • Office of Public Affairs

USDA TO DEVELOP REGULATIONS REQUIRING INSPECTION AND CERTIFICATION OF PEANUTS

WASHINGTON, April 12—The U.S. Department of Agriculture is developing regulations which will ensure that all peanuts to be sold for human consumption are inspected, certified and identified by lot.

Daniel D. Haley, administrator of USDA's Agricultural Marketing Service, said approximately 95 percent of the peanuts marketed for human consumption are currently inspected and certified for size, quality and condition, in addition to being chemically tested to assure a safe supply for consumers. A federal law enacted in December 1989—Public Law 101-220—requires that the remaining portion of the peanut crop be inspected, certified, and tested, Haley said.

AMS conducts the inspection, certification and testing program on a fee basis for peanut handlers. The handlers operate in an association termed the "Peanut Marketing Agreement," which is authorized by the Agricultural Marketing Agreement Act of 1937. A 13-member administrative committee of peanut producers and handlers administers the program, and the committee's work is financed by assessments on handlers who have signed the Peanut Marketing Agreement and thus "belong" to it. The administrative committee works with AMS in the inspection, certification and testing program.

Haley noted that the committee also administers a program which indemnifies peanut handlers unable to market tested peanuts found unsuitable for human consumption. Only handlers who have signed the agreement are eligible for indemnification, he said.

Handlers whose peanuts hitherto have not been tested, but which will be tested under the new law, may wish to sign the agreement to take advantage of the indemnification program, Haley said. They should contact the Peanut Administrative Committee, P.O. Box 18856, Lenox Square Station, Atlanta, Ga. 30326; telephone (404) 261-7800.

A proposed rule inviting public comments on the new requirements will be published in a future issue of the Federal Register. For additional information, contact Patrick Packnett, Marketing Order Administration

Branch, Fruit and Vegetable Division, AMS, USDA, Rm. 2530-S, P.O. Box 96456, Washington, D.C. 20090-6456; telephone (202) 475-3862.

Clarence Steinberg (202) 447-6179

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USDA ANNOUNCES PREVAILING WORLD MARKET PRICE FOR UPLAND COTTON

WASHINGTON, April 12—Under Secretary of Agriculture Richard T. Crowder today announced the prevailing world market price, adjusted to U.S. quality and location (adjusted world price), for Strict Low Middling (SLM) 1-1/16 inch (micronaire 3.5-4.9) upland cotton (base quality) and the coarse count adjustment in effect from 12:01 a.m. Friday, April 13, through midnight Thursday, April 19.

Since the adjusted world price (AWP) is above the 1988 and 1989 crop base quality loan rates of 51.80 and 50.00 cents per pound, respectively, the loan repayment rates for the 1988 and 1989 crops of upland cotton during this period are equal to the respective loan rates for the specific quality and location.

The AWP will continue to be used to determine the value of upland cotton that is obtained in exchange for commodity certificates. Because the AWP in effect is above the established loan rate, loan deficiency payments are not available for 1989-crop upland cotton sold during this period.

Based on data for the week ending April 12, the AWP for upland cotton and the coarse count adjustment are determined as follows:

Adjusted World Price

Northern Europe Price 82.73

Adjustments:

Average U.S. spot market location 13.12

SLM 1-1/16 inch cotton 2.20

Average U.S. location 0.39

Sum of Adjustments -15.71

ADJUSTED WORLD PRICE 67.02 cents/lb.

Coarse Count Adjustment

Northern Europe Price 82.73

Northern Europe Coarse Count Price -76.92

5.81

Adjustment to SLM 1-inch cotton -4.75

COARSE COUNT ADJUSTMENT 1.06 cents/lb.

The next AWP and coarse count adjustment announcement will be made on Thursday, April 19.

Charles Cunningham (202) 447-7954

#

**SEVEN INDICTED FOR EMBEZZLING AND MISAPPLYING
USDA-OWNED COMMODITY CHEESE**

WASHINGTON, April 13—The U.S. Department of Agriculture's Deputy Inspector General Leon Snead announced today that five former employees and two current employees of Sabatasso Foods, Inc., Florence, Ky., (now owned by Schwan's Sales Enterprises, Inc., Marshall, Minn.), were indicted April 11 by a Federal Grand Jury in Covington, Ky., on charges of embezzling and misapplying USDA-owned commodity cheese. The indictment was unsealed yesterday.

According to Snead, the indictment followed a three-year investigation conducted by special agents from USDA's Office of Inspector General. The indictment charges all seven defendants with one count of conspiracy to commit offenses against the United States, and two counts of embezzling and misapplying USDA-owned commodity cheese. The conspiracy count alleges that approximately \$1,445,000 worth of

government-owned commodity cheese was misapplied between November 1985 and January 1987 at the plant in Florence, Ky.

The defendants are Gregorio Humberto Gonzalez, age 40, Carlos C. Gonzalez, age 28, Russell Peter Ayers, age 35, all of Santa Ana, Calif.; Raphael Frias, age 35, Commerce, Calif.; Edwin Earl Pixler, age 40, Florence, Ky.; Robert Kent Lowe, age unknown, Atascadero, Calif.; and Stanley E. Walls, age 40, Telford, Pa. Ayers, Frias, Walls, and both Gonzalez' were arrested yesterday by OIG special agents.

This indictment follows the guilty pleas of Ricky Kazuo Oshiro, 38, and his brother, Clifford Tadao Oshiro, 30, October 1989 for related offenses. The Oshiros are former supervisors of the Sabatasso plant in Kentucky.

Sabatasso Foods, Inc., operated under contractual agreements with USDA's Food and Nutrition Service to produce food products, including pizza, utilizing government-donated commodity cheese. The food products were then distributed to low income groups through government programs such as the School Lunch Program. Sabatasso Foods, Inc. also was in business to produce commercial food products sold through grocery stores on a nationwide basis.

The investigation was coordinated with Louis DeFalaise, U.S. Attorney for the Eastern District of Kentucky. The defendants each face a maximum penalty of 5 years in prison and a \$250,000 fine on each count of the indictment.

David Dickson (202) 447-6701

#

AUBURN RESEARCHER TO STUDY MOVEMENT OF GLOWING TRANSGENIC MICROORGANISM

WASHINGTON, April 16—The U.S. Department of Agriculture has issued a permit to an Auburn University researcher who will study the movement of a microbe genetically engineered to luminesce, or glow, allowing researchers and students to observe its movement through plants and the environment. An environmental assessment and finding of no significant impact is available for public review.

"We have closely reviewed the experimental design of the proposed field tests and are satisfied they are properly designed and will pose no agricultural or human hazard," said James W. Glosser, administrator of

USDA's Animal and Plant Health Inspection Service. The tests will take place in Macon County, Ala., beginning this month.

Joseph Shaw, assistant professor of botany and microbiology at Auburn, has transferred a set of genes coding for bioluminescence from a marine microorganism (*Vibrio fischeri*) into a bacterium (*Xanthomonas campestris*) that causes black rot, a major disease of plants in the cabbage and broccoli family.

After infecting plants with the luminescent black rot bacteria the diseased plant parts will glow. "We're interested in studying the progression of the disease through the plant as well as the fate of an engineered microbe in its environment," said Shaw. "One of the benefits of this system is observing the progress of the disease without destroying the plants, as traditional laboratory methods require."

Shaw also expects the luminescing microbe to be a fascinating educational tool. "Students can watch the behavior of the microbe just by turning off the lights and watching the cultures glow," he said. "It's bound to capture their interest."

In nature, the luminescing *Vibrio fischeri* microorganism enjoys a symbiotic relationship with fish, for which it produces light. Scientists suspect the fish use the glowing microorganisms to communicate with each other.

Copies of the environmental assessment are available by contacting Linda Gordon, Room 844, USDA, APHIS, Federal Building, 6505 Belcrest Road, Hyattsville, Md., 20782.

Anita Brown (301) 436-5931

#

PERMIT ISSUED FOR BASIC RESEARCH ON GENETICALLY ALTERED POTATOES

WASHINGTON, April 16—The U.S. Department of Agriculture today notified the public of the availability of an environmental assessment and finding of no significant impact from field tests of potatoes engineered to carry two additional genes for research purposes.

"These tests have been thoroughly reviewed by our agency and we believe they are well designed and environmentally safe," said James W. Glosser, administrator of USDA's Animal and Plant Health Inspection Service. "The genes being transferred have proven innocuous in many

previous experiments," said Glosser. Moreover, the researcher has designed the study to contain the plants and their pollen during the experiment, and to destroy them afterwards.

Following completion of an environmental assessment, the tests will begin in May in Idaho and will be conducted by USDA's Agricultural Research Service.

The experimental potatoes carry two additional marker genes, that is, genes that are relatively easy to detect in the laboratory but have no agronomic effect on the plant. (The two genes code for the enzymes neomycin phosphotransferase and beta-glucuronidase.) ARS research scientist William Belknap and his colleagues will test the potatoes to confirm that they carry the genes and then monitor the plants for vigor and yield.

"The point is simply to make sure that the process of inserting genes into a potato plant will not interfere with the quality of the plant, and thereby negate the benefits of adding genes," said Belknap. "Potatoes typically show variation when regenerated. It's part of doing your homework to characterize that variation and to know as much as you can about the experimental process before designing studies to improve the crop."

APHIS has developed an environmental assessment examining the methods and data to be used in the field trials and has found no significant environmental impacts associated with the tests. A copy of the environmental assessment can be obtained by contacting Mary Petrie, USDA, APHIS, BBEP, Room 847 Federal Building, 6505 Belcrest Road, Hyattsville, Md. 20782; telephone (301) 436-7612.

Anita Brown (301) 436-5931

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USDA PROTECTS 14 NEW PLANT VARIETIES

WASHINGTON, April 16—The U.S. Department of Agriculture has issued certificates of protection to developers of 14 new varieties of seed-reproduced plants, including corn, tall fescue, oat, ryegrass, tomato and wheat.

Kenneth H. Evans, of USDA's Agricultural Marketing Service, said developers of the new varieties will have the exclusive right to reproduce, sell, import, and export their products in the United States for 18 years. Certificates of protection are granted after a review of breeders' records and claims that each new variety is novel, uniform, and stable.

The following varieties have been issued certificates of protection:

- the IBB15 variety of corn, developed by DeKalb-Pfizer Genetics, DeKalb, Ill.;
- the Tribute variety of tall fescue, developed by Lofts Seed Inc., Bound Brook, N.J.;
- the Chieftain variety of tall fescue, developed by Pickseed West Inc., Tangent, Ore.;
- the Hercules and Pennuda varieties of oat, developed by the Pennsylvania Agricultural Experiment Station and USDA-ARS;
- the Allaire variety of perennial ryegrass, developed by KWS-AG, West Germany;
- the Riviera and Pleasure varieties of perennial ryegrass, developed by Pickseed West Inc., Tangent, Ore.;
- the Mondial variety of perennial ryegrass, developed by Mommersteeg International B.V., The Netherlands;
- the Dimension and Charger varieties of perennial ryegrass, developed by Pure-Seed Testing Inc., Hubbard, Ore.;
- the 887 and 888 varieties of tomato, developed by LSL Biotechnologies Inc., San Diego, Calif.;
- the QK-77 variety of Polish wheat, developed by T.M. Quinn, Big Sandy, Mont.

The certificates of protection for the Hercules and Pennuda oat varieties and the Allaire perennial ryegrass variety are being issued to be sold by variety name only as a class of certified seed, and to conform to the number of generations specified by the owner.

The plant variety protection program is administered by AMS and provides marketing protection to developers of new and distinctive seed-reproduced plants ranging from farm crops to flowers.

Carolyn Coutts (202) 447-8998

#

EXPERT PANEL HAS WAYS TO COMBAT CHEMICAL-RESISTANT PEST OF CATTLE

WASHINGTON,—U.S. livestock producers are being offered new strategies for their war on the horn fly, a cattle pest becoming resistant to pyrethroid insecticides, said a U.S. Department of Agriculture scientist.

Entomologist Sidney E. Kunz of USDA's Agricultural Research Service headed a panel of federal, state and industry experts that devised the new strategies and has prepared a fact sheet describing them.

He said the fly's growing resistance to pyrethroids is a problem in all major cattle producing areas of the U.S.—including Hawaii—and in parts of Canada. Horn fly season begins as early as mid-March and lasts until the first frost in some areas, he added.

The strategies include not applying any horn-fly insecticide until flies become a serious problem, using compounds other than pyrethroids and timing chemical controls to get maximum results and minimal resistance buildup. Kunz said the strategies can be used singly or in combination.

“Horn flies have adapted to chemicals intended to overwhelm them,” he said. “They became resistant and through breeding they passed on this resistance to their offspring. Our panel’s goals are to minimize the resistance problem while getting the best use out of existing insecticides.” Kunz is director of the Knipling-Bushland U.S. Livestock Insects Research Laboratory that ARS operates in Kerrville, Texas.

“These flies cost U.S. livestock producers about \$700 million annually in reduced weight gains and milk production for nursing calves,” he said.

The pests can reduce weaning weights of calves by 15 to 40 pounds, said University of Nebraska Extension entomologist Jack Campbell, a panel member. “At today’s prices, that kind of loss can average \$25 per calf,” he said.

“Farmers and ranchers should start planning their pest control strategies now,” said Kunz, “so the flies cannot breed future generations that could resist any class of commercial insecticide.”

The panel, appointed by the chairman of the North Central Regional Research Committee 99 (Livestock Pest Management), included experts from ARS, Cornell University, Ithaca, N.Y., Oklahoma State University, Stillwater, University of Nebraska, North Platte, Fermenta Animal Health, Kansas City, Mo., Y-TEX Corp., Cody, Wyo., and Zoecon Corp., Dallas, Texas.

In the mid-1970's, technology developed by Kansas State University, Oklahoma State University and ARS gave cattle producers ear tags that slowly released an insecticide. The first ear tags held organophosphates, effective against horn flies for 6 to 10 weeks. Then came pyrethroid tags, which controlled them for 16 to 24 weeks. In 1984 more than 50 percent of all cattle wore pyrethroid tags.

Ear tags quickly became popular because they were economical and effective and used 98 percent less chemical. But within two to three years, flies began to develop resistance, said Kunz.

Kunz said "heavy reliance on ear tags and the class of insecticides they held—pyrethroids—may have inadvertently helped the flies become resistant. But extensive use of any compound by any application method that simulates the ear tag intensity can and will cause similar resistance problems."

Federal, state and industry researchers continue to study the problem and search for long-term, effective controls that will prevent buildup of insecticide resistance, he said.

Linda Cooke (309) 685-4011

Issued: April 16, 1990

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USDA ANNOUNCES 1990 BURLEY TOBACCO ASSESSMENT RATE

WASHINGTON, April 17—The U.S. Department of Agriculture's Commodity Credit Corporation today announced that an assessment of two cents per pound will be required for the 1990 crop of burley tobacco. The assessment will be shared equally between producers and purchasers of the 1990 crop.

Funds in the No-Net-Cost tobacco account ensure that the price support program for burley tobacco will be operated at no net cost to taxpayers, as required by the No-Net-Cost Tobacco Program Act of 1982.

CCC consulted with the two producer-owned associations that provide price support for burley tobacco before setting the no-net-cost assessment.

Producers who do not pay the no-net-cost assessment will not be eligible to receive price support with respect to their 1990 crop burley tobacco. They will also be subject to a penalty equal to 75 percent of the 1989 average market price for burley tobacco for each pound of tobacco they market.

Bruce Merkle (202) 447-8206.

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USDA SETS 1990 PRODUCER ASSESSMENTS FOR DARK AIR, FIRE AND SUN-CURED TOBACCO

WASHINGTON, April 17—The U.S. Department of Agriculture's Commodity Credit Corporation (CCC) announced today that to qualify for price support loans under the tobacco program, producers of 1990-crop Kentucky and Tennessee dark air-cured (types 35 and 36), fire-cured (types 22 and 23), Virginia fire-cured (type 21), or sun-cured (type 37) tobaccos must agree to pay assessments on all marketings of these tobaccos for deposit into no-net-cost accounts.

The assessments ensure the tobacco price support program will be operated at no net cost to taxpayers as required by the No-Net-Cost Tobacco Program Act of 1982.

The assessments are three cents per pound for Virginia fire-cured (type 21) and sun-cured (type 37), two cents per pound for fire-cured (types 22 and 23), and seven cents per pound for dark air-cured (types 35 and 36) tobaccos. The amounts were determined in consultation with tobacco producer associations.

Producers who elect not to pay the assessments will not be eligible to receive price support with respect to these crops. In addition, for each pound of these tobaccos they sell, they will be assessed a penalty equal to 75 percent of the 1989 average market price for the respective kind of tobacco.

Bruce Merkle (292) 447-4026.

#

USDA ANNOUNCES PRODUCER ASSESSMENT FOR WISCONSIN CIGAR TOBACCO

WASHINGTON, April 17—The U.S. Department of Agriculture's Commodity Credit Corporation today announced that no assessment will be imposed under the No-Net-Cost Tobacco Program Act of 1982 with respect to the 1990-crop of cigar binder (types 54 and 55) tobacco produced in Wisconsin.

No assessments will be required for southern and northern Wisconsin cigar binder tobacco, since current funds in the no-net-cost accounts are sufficient to cover anticipated losses.

The no-net-cost accounts, funded by producer assessments, is to ensure that the price support program for these tobaccos will be operated at no net cost to taxpayers as required by the statute.

The decision not to impose assessments was made after consultation with the two producer associations that provide price support on cigar tobacco produced in Wisconsin.

Bruce Merkle (202) 447-8206.

#

USDA ANNOUNCES PRODUCER ASSESSMENT FOR OHIO CIGAR TOBACCO

WASHINGTON, April 17—The U.S. Department of Agriculture's Commodity Credit Corporation today announced a no-net-cost producer assessment of 96.2 cents per pound on the 1990 crop of Ohio cigar filler (types 42-44) tobacco. The 96.2 cents per pound no-net-cost assessment is the same as the 1990 price support level for cigar (types 42-44) tobacco.

The no-net-cost account, funded by producer assessments, is to ensure, as is practicable, that the price support program for tobacco will be operated at no net cost to taxpayers as required by the No-Net-Cost Tobacco Program Act of 1982. The amount of this year's assessment is determined based upon substantial losses which were incurred by CCC with respect to prior crop year loans.

Producers who do not agree to pay the assessment will be ineligible to receive price support with respect to their 1990 crop of Ohio cigar filler tobacco. In addition, if producers market tobacco, they will be subject to a penalty equal to 75 percent of the 1989 crop's average market price.

Bruce Merkle (202) 447-8206.

#

WEST, CENTRAL AFRICAN COUNTRIES ELIGIBLE FOR WHEAT FLOUR UNDER EEP

WASHINGTON, April 17—Acting Under Secretary of Agriculture Ann M. Veneman today announced an opportunity for sales of 200,000 metric tons of U.S. wheat flour to 19 west and central African countries under the U.S. Department of Agriculture's Export Enhancement Program.

Sixteen of the countries—Angola, Burundi, Cameroon, Congo, Gabon, Ghana, Guinea, Liberia, Mali, Mauritania, Niger, Rwanda, Sierre Leone, Tanzania, Togo and Zambia—have not previously been targeted for wheat flour sales under the EEP. Three countries—Benin, the Central African Republic and Zaire—were previously targeted for wheat flour sales under the EEP. Since they are included in today's new initiative, their previous invitations are withdrawn.

Sales of wheat flour will be made to buyers in these 19 countries at competitive world prices. The export sales will be made through normal commercial channels with the assistance of commodities from the inventory of the Commodity Credit Corporation. The subsidy will enable U.S. exporters to compete at commercial prices in these west and central African markets. This is the 106th initiative announced under the EEP.

This allocation will be valid for a one-year period as provided for in the invitation for offers. Details of the program, including an invitation for offers from exporters, will be issued in the near future.

For more information call William Hawkins, (202) 382-9240, or Larry McElvain, (202) 447-3224. For a tape-recorded message announcing the issuance of invitations under EEP call the CCC Operations Hotline, (202) 447-2042.

Sally Klusaritz (202) 447-3448

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USDA ANNOUNCES PREVAILING WORLD MARKET RICE PRICES

WASHINGTON, April 17—Acting Under Secretary of Agriculture Ann Veneman today announced the prevailing world market prices of milled rice, loan rate basis, as follows:

- long grain whole kernels, 9.31 cents per pound;
- medium grain whole kernels, 8.25 cents per pound;
- short grain whole kernels, 8.14 cents per pound;
- broken kernels, 4.66 cents per pound.

Based upon these prevailing world market prices for milled rice, rough rice world prices are estimated to be:

- long grain, \$5.75 per hundredweight;
- medium grain, \$5.17 per hundredweight;
- short grain, \$4.98 per hundredweight.

The prices announced are effective today at 3 p.m. EDT. The next scheduled price announcement will be made April 24 at 3 p.m. EDT, although prices may be announced sooner if warranted.

Gene Rosera (202) 447-7923

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USDA ANNOUNCES CHANGES IN DAIRY PRICE SUPPORT PROGRAM

WASHINGTON, April 17—The U.S. Department of Agriculture today announced revised purchase prices at which USDA'S Commodity Credit Corporation will purchase butter and nonfat dry milk under the dairy price support program.

Effective April 18, CCC support purchase price for nonfat dry milk will be increased by 6 cents per pound to 85 cents and the butter price will be reduced by 11 cents per pound to 98.25 cents.

These are offsetting adjustments of 50 cents per 100 pounds of milk. The CCC purchase prices for block Cheddar and barrel cheese will remain unchanged at \$1.11 and \$1.07 per pound, respectively. The level of price support for milk remains at \$10.10 per hundredweight for milk containing 3.67 percent milkfat.

CCC supports prices through purchases of butter, cheese and nonfat dry milk. CCC purchased 214 million pounds of milkfat in the form of

butter during the first half of fiscal year 1990 and 2.3 million pounds of nonfat dry milk. Cheese was not purchased.

The adjusted butter and nonfat dry milk purchase prices should result in greater commercial use of butter and reduce CCC purchases.

CCC-owned dairy products will continue to be available for purchase for unrestricted use at prices which are about 10 percent over the prevailing CCC price support purchase prices. Currently, only butter is being offered for sale by CCC.

Further terms and conditions for CCC purchases of dairy products will be contained in CCC announcements.

The following prices are effective April 18:

Products produced before April 18, 1990 which are graded and offered by May 1, 1990 ¹	Products produced On or after April 18, 1990 or not graded and offered by May 1, 1990 ¹
Dollars per Pound	
Butter, 64- & 68-1b. blocks (salted) (U.S. Grade A or higher) Nonfat dry milk (spray), 50-1b. bags (U.S. Extra Grade, but not more than 3.5 percent moisture)	\$1.0925
Nonfortified	0.7900 ¹
Fortified (Vitamins A & D)	0.8000 ¹
Cheddar Cheese, standard moisture basis ² 40- and 60-1b. blocks, U.S. Grade A or higher (No vat shall contain more than 38.5 percent moisture)	1.1100
500 lb. in fiber barrels, U.S. Extra Grade (No vat shall contain more than 36.5 percent moisture)	1.0700
	1.1100
	1.0700 ¹

¹Regarding the purchases of nonfat dry milk, the higher purchase prices in this schedule will apply only to products produced on or after April 18. Any eligible products with respect to nonfat dry milk which are produced before that date will be eligible only for the lower prices in the table regardless of the date on which the products are graded and offered.

²The cheese prices will be adjusted for moisture content as shown in the Moisture Adjustment Cheese Price Chart (Form ASCS-150).

Bruce Merkle (202) 447-8206.

#

GENETICALLY ENGINEERED CORN PLANTS PAVE WAY TO SUPERIOR CROPS

WASHINGTON, April 17—Corn cells, to which new genes have been added, have produced fertile plants that pass new genetic traits to their offspring, U.S. Department of Agriculture and Monsanto Company scientists announced.

Molecular biologist Michael E. Fromm and co-researchers at USDA's Agricultural Research Service, Albany, Calif., are among the first to transfer new genes into corn. Plant biotechnologists have had far more difficulty doing this for corn and other monocots—plants that put forth one leaf from germinating seed—than for dicots with two seed leaves, such as the tomato.

Charles L. Armstrong, at Monsanto laboratories in St. Louis, developed the laboratory cultures of corn cells that took up the new genes fired from a "gene gun". The cells were subsequently nurtured into fertile corn plants.

Fromm and Armstrong described their experiments with two marker genes at a symposium April 16 in Keystone, Colo. The week-long conference on genetic engineering of crops is sponsored by the University of California at Los Angeles.

The team's techniques, said Fromm, should help pave the way for introducing valuable new traits, such as resistance to insects or disease, into corn and other monocots like wheat, oats, barley and rice. Fromm is a senior scientist with the Plant Gene Expression Center operated by ARS and the University of California at Berkeley. He also is adjunct assistant professor with the university's Department of Plant Biology.

Robert T. Fraley said the team's success "represents the beginning of important new advances in our understanding of cereal plants' biology, and should lead to better crops for the future." He is director of plant science technology at Monsanto, which funded part of the Albany research.

"Plants with genetically engineered resistance to insects like the corn

borer would not only need less pesticide," Fraley said, "but should also have increased yields." He termed the research a "highly productive venture and excellent example of collaboration between industry and the USDA."

To transfer new genes into corn plants, Fromm and Albany associates surmounted a series of technical hurdles. "Basically, we needed to learn how to transfer new 'marker' genes into corn cells and make them function, locate those cells that received marker genes then propagate the cells into mature, fertile corn plants that would pass the genes to their offspring," Fromm said. "Since less than one in a million cells receive marker genes, it took years of research to overcome all the obstacles," he said.

For the experiments, Fromm worked with Fionnuala Morrish and Rosalind E. Williams at Albany to construct two new genes to serve as markers of successful gene transfer.

One of these genes allows corn cells to grow in the presence of an inhibitor; cells lacking the gene cannot.

A second marker gene, derived from the gene that causes fireflies to glow, triggers corn cells to make small amounts of light—invisible to the naked eye. "We linked the two marker genes," Fromm said, "so we could use a special low-light detection machine to identify cells that have accepted both genes."

Former team member Theodore M. Klein directed use of the gene gun to propel marker genes into corn cells in petri dishes. Klein had earlier helped develop the technique for another crop when he was at Cornell University, Fromm said.

Scientists cultured cells that received the new genes into mature plants that they then fertilized with pollen, producing a new generation of healthy seedlings now growing in the greenhouse.

"We found that half of these seedlings made light, indicating they contained the marker genes," Fromm said. "These plants prove that our technique for transferring genes into corn is successful, and should also work for other cereals."

Marcia Wood (415) 559-6070

#

50TH ANNIVERSARY OF USDA REGIONAL RESEARCH LABS KICKS OFF

WASHINGTON, April 18—April 20 is the kickoff of the 50th anniversary for four of the U.S. Department of Agriculture's largest research centers.

"Consumers can recognize a number of products and end results that come from research in these centers," said R. Dean Plowman, administrator of USDA's Agricultural Research Service, which operates the centers. National Consumers Week is being observed April 22-28. USDA is addressing issues that include new technologies and how agriculture affects the environment.

Among the research centers' achievements are a technique for mass-producing penicillin at the height of World War II, frozen concentrated orange juice, permanent press cotton fabrics and instant potato flakes.

At each center, laboratories will report on their research over the five decades that, Plowman said, "has led to new uses for farm crops and new products for domestic and overseas markets."

Ceremonies will be held on separate dates at each of the four regional locations, Plowman said, starting April 20-21 at the Southern Regional Research Center, New Orleans, La.

Others will be held July 6-7 at the Northern Regional Research Center, Peoria, Ill.; Sept. 18 at the Western Regional Research Center, Albany, Calif.; and Oct. 3-4 at the Eastern Regional Research Center, Philadelphia, Pa.

According to Plowman, the Agricultural Adjustment Act of 1938 started it all. It empowered USDA to establish regional laboratories to conduct research to develop new scientific, chemical and technical uses for farm commodities, their products and byproducts and to develop new markets, especially for those products often produced in surplus.

Regional center research has led, Plowman said, to "a wide range of payoffs" including natural pest controls and industrial oils as well as microorganisms and techniques used in making dextran as a blood extender, beta carotene and vitamins B2 and B12. Other research has brought about longer lasting soybean oil and procedures for protecting the nutrients and flavor of frozen foods.

Food safety research also has resulted in safer cured meats, guidelines for safe home canning of tomatoes and food testing for potentially harmful pathogens and chemical residues.

Other products include explosion-puffed blueberries and mushrooms, protein-enriched pasta, lactose-reduced milk and high-protein rice flour. Center scientists have worked out wrinkle-resistant cotton fabrics and have developed flame-retardant chemical treatments that don't wash away when laundered.

Center scientists developed superslurper, which is derived from cornstarch and capable of absorbing hundreds of times its weight in water. Another product is cocoa butter substitutes made from cottonseed oil and tallow. Cocoa butter, a component of chocolate, is the world's most expensive food fat.

These and other success stories appear in a report on the centers' 50 years of research in the current issue of ARS' Agricultural Research magazine.

"Our regional centers each have 50 years of research history and the future will take them into new research linked to food and environmental concerns, new agricultural markets and exports," Plowman said.

Matt Bosisio (309) 685-4011

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PRIVATE EXPORTERS REPORT SALES ACTIVITY FOR UNKNOWN

WASHINGTON, Apr. 18—Private exporters today reported to the U.S. Department of Agriculture export sales of 100,000 metric tons of corn for delivery to unknown destinations during the 1989-90 marketing year.

The marketing year for corn began Sept. 1.

USDA issues both daily and weekly export sales reports to the public. Exporters are required to report to USDA export sales of 100,000 metric tons or more of one commodity, made in one day, to one destination by 3:00 PM, eastern time on the next business day following the sale. Export sales of less than these quantities must be reported to USDA on a weekly basis.

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PHYLLIS R. GAULT APPOINTED TO USDA ADMINISTRATION POST

WASHINGTON, April 19—Secretary of Agriculture Clayton Yeutter announced today the appointment of Phyllis R. Gault as deputy assistant secretary of agriculture for administration.

Gault, a certified public accountant from Norman, Okla., has experience in both government and the private sector. Most recently, she served as financial specialist for the Oklahoma Department of Commerce.

"Phyllis comes to USDA with a solid background in financial management and auditing. We are fortunate to have someone with her proven abilities to help lead the department's administration office," said Yeutter.

Gault had served at the Oklahoma Department of Commerce since March 1988. A partner in the accounting firm of Smith, Gault and Company in Norman since January 1986, she has held other financial management positions, including director of management services, Office of the Oklahoma Auditor and Inspector, from December 1979 to August 1982.

Gault is a member of the American Institute of Certified Public Accountants and the Oklahoma Society of Certified Public Accountants. Active in Norman community affairs, she served as president of the Firehouse Arts Center, as board member of the Cleveland County, Okla., Red Cross and as an officer of the Arts and Humanities Council of Norman.

A native of Oklahoma, Gault holds a degree in accounting from East Central State University, in Ada, Okla., and attended Ada High School. She has two sons and now resides in Arlington, Va.

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DIETS DEFICIENT IN BORON CAN DULL THE SENSES

WASHINGTON.—There's now more evidence that boron—or rather the lack of it in the diet—brings about changes in brain wave patterns indicating a drop in alertness.

Two new studies, one of 13 older women and the other of rats, "are confirming what we reported last year," a U.S. Department of Agriculture nutrition researcher said today.

"When you reduce dietary boron, you're almost certainly going to get a drop in alpha wave activity and an increase in theta wave activity from what we've seen on electroencephalograms (EEG)," said James G. Penland, a psychologist with USDA's Agricultural Research Service.

"That's the same type of change you see when people become more drowsy or less alert," he said. He is based at the ARS Grand Forks, N.D., Human Nutrition Research Center.

Boron is most abundant in apples, pears, grapes, broccoli, carrots and a few other fruits and vegetables, he said.

Penland also said new findings from an earlier study suggest that boron affects motor function. On some of the tests he administered, women's performance suffered when their boron intake was very low.

"A lack of boron seems to have an effect on motor performance," he said. The women could not tap their finger as fast, follow a target as accurately using a joy stick or respond as quickly when asked to search a field of letters for specific items. "In other words," he said, "they were slower when they were getting the lower amount of boron."

EEG results from both studies also support the case for boron's effect on motor performance, he said. "The most consistent differences between the low and adequate boron diets were in the area of the brain that coordinates motor activity."

Altogether, Penland said, the findings strengthen the premise that boron may be an essential element.

Volunteers in the two studies ate meals containing only about 0.25 milligram of boron per day. A 3-milligram supplement was added during half of each study to simulate an adequate intake.

This meant meals with no fruit or natural fruit juices and only a few vegetables in very small portions, said dietitian Loanne Mullen.

"Fastfood fare would contain very little of the element," Mullen said, "even if it was accompanied by a lettuce and tomato salad."

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